

CLAIMS

1. A hearing aid having at least one input transducer for transforming an acoustic input signal into a first electrical signal, a signal processor for compensating a hearing deficiency by generation of a second electrical signal based on the first electrical signal, an output transducer for conversion of the second signal into sound, and a probe means for determination of a signal parameter at a first point in the signal path of the hearing aid.
2. A hearing aid according to claim 1, further comprising a test controller that is adapted to control the probe means for detection of a defect in the signal path of the hearing aid.
3. A hearing aid according to claim 2, wherein the test controller is adapted to disconnect all of the at least one input transducers from the signal path circuit and to activate the probe means for determination of the signal level whereby the noise level generated by input circuitry of the hearing aid may be determined.
4. A hearing aid according to claim 2, further comprising a test signal generator controlled by the test controller for generation of a test signal at a second point in the signal path.
5. A hearing aid according to claim 4, wherein the test controller is further adapted to compare the parameters of the signal generated at the first point with desired parameters to determine whether the hearing aid comprises a defect.
6. A hearing aid according to claim 4, wherein the second point is situated so that the test signal is converted into a sound signal, and wherein the test controller is further adapted to connect one of the at least one input transducers to the signal path.
7. A hearing aid according to claim 4, further comprising a filter bank with bandpass filters for dividing the first electrical signal into a set of bandpass filtered first electrical signals, and wherein the processor is adapted to generate the second electrical signal by individual processing of each of the bandpass filtered first electrical signals and adding the processed electrical signals into the second electrical signal, and wherein the test controller is adapted to selectively connect the probe means to the output of one of the bandpass filters.
8. A hearing aid according to claim 7, wherein the test controller is further adapted to connect the probe means to the output of a bandpass filter that comprises a third harmonic of the output of the test signal generator for determination of harmonic distortion.

9. A hearing aid according to claim 6, wherein the input transducer connected to the signal path is the telecoil.
10. A hearing aid according to claim 4, wherein the test controller is further adapted to verify the gain of the signal processor.
- 5 11. A hearing aid according to claim 10, wherein the test controller is further adapted to verify the gain of the signal processor as a function of frequency.
12. A hearing aid according to claim 4, wherein the test controller is further adapted to verify the compression of the signal processor.
- 10 13. A hearing aid according to claim 2, further comprising an adaptive feedback loop for suppression of acoustic feedback, and wherein the test controller is further adapted to verify operation of the adaptive feedback loop.
14. A hearing aid according to claim 2, further comprising activation means for activating the test controller to initiate the self test.
- 15 15. A hearing aid according to claim 14, wherein the activation means comprises one or more switches positioned at the hearing aid housing.
16. A hearing aid according to claim 14, wherein the activation means comprises interface means that is adapted to receive commands from a remote control device used to operate the hearing aid.
- 20 17. A hearing aid according to claim 14, wherein the activation means comprises interface means that is adapted to receive commands from a programming device used to program the hearing aid.
18. A hearing aid according to claim 14, wherein the activation means comprises interface means that is adapted to receive commands from a fitting device for the hearing aid.

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